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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/481,771	01/11/2000	Karl Michael Isham	PHA 23,656	6085

24737 7590 07/10/2003

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER

ALI, SYED J

ART UNIT	PAPER NUMBER
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2127

8

DATE MAILED: 07/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/481,771

Applicant(s)

ISHAM, KARL MICHAEL

Examiner

Syed J Ali

Art Unit

2127

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-10, 13-18 and 21-25 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 11, 12, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. This office action is in response to Amendment A, paper number 7, which was received May 1, 2003. Applicant's arguments have been fully considered but they deemed to be moot in view of the new ground of rejection. Claims 1-25 are presented for examination.

2. The text of those sections of Title 35, U.S. code not included in this office action can be found in a prior office action.

Claim Rejections - 35 USC § 103

3. Claims 1-3, 6-10, 13-18, and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yue et al. (USPN 6,272,517) (hereinafter Yue) in view of Sha et al. (see attached citation on form PTO-892 from previous Office action) (hereinafter Sha) in view of Nilsen (USPN 6,438,573).

As per claim 1, Applicant points out that the previous Office action indicates, "*Yue does not teach reallocation of execution time in response to an overload condition.*" Examiner acknowledges that Yue does in fact fail to teach reallocation of execution time in response to an overload condition. Alternatively, Yue teaches reallocation of execution time in response to a blocked thread condition. Examiner cited Sha to make up for this deficiency of Yue. However, Applicant argues that, "*Sha merely discussed the period transformation technique that turns a long-period important task into a high priority task by splitting its work over several periods*" and that this "*period transformation scheduling technique should be done to prevent possible*

overload conditions.” Examiner acknowledges this argument and agrees that Sha does in fact fail to specifically disclose that the period transformation should occur in response to an overload condition. Prevention of an overload condition is markedly dissimilar from resolution of an overload condition. Therefore, the previous rejection is withdrawn.

Upon a further search, a new reference, Nilsen, was found that does in fact teach of period transformation in response to an overload condition (col. 26 lines 50-61, “under transient overload conditions, the real-time executive may find it necessary to temporarily adjust a real-time task’s periodic CPU allocation downward”).

It would have been obvious to one of ordinary skill in the art to combine Yue, Sha, and Nilsen for at least the following reasons. Sha and Nilsen both specifically refer to real-time programming methods and handling of overload conditions of tasks with critical deadlines. Whereas Sha teaches of a method of period transformation to prevent an overload condition, Sha does not specifically mention how an overload condition would be handled if one were to occur. Nilsen makes up for this deficiency by stating that during an overload condition, the periodic CPU allocation could be adjusted downward. This provides the added benefit of ensuring that a critical task may meet its deadline even if an overload condition is currently occurring. However, the combination of Sha and Nilsen thereof still fails to account for the CPU time that was reallocated therein. Yue provides a way of utilizing this CPU time by giving it to a higher priority task. Therefore, it would have been obvious to add Yue to the combination of Sha and Nilsen to arrive at a real-time programming method that not only prevents overload conditions by breaking a long period task into several smaller period tasks, but also handles overload conditions that occur by reallocating CPU time from a lower priority task to a higher priority task

while adjusting the periodic CPU allocation for the lower priority task downward. The remainder of the limitations of this claim are met by Yue and Sha as discussed in the previous Office action. The combination of Yue, Sha, and Nilsen therefore meet all the limitations and requirements of claim 1.

As per claims 8, 15, and 23-25, Applicant points out that "*The other rejected independent claims recite a feature similar as discussed above in regard to Claim 1 and are believed patentable for at least the same reasons.*" Examiner agrees that the previous rejections of these claims also were invalid for failing to show that the combination of Yue and Sha handled reallocation of CPU time in response to an overload condition. As discussed above, Nilsen makes up for this deficiency. Therefore, Nilsen is hereby cited to also meet the similar features of these claims. The remainder of the limitations stand as unpatentable over Yue in view of Sha in view of Nilsen as discussed in the previous Office action.

As per claims 2-3, 6-7, 9-10, 13-14, 16-18, and 21-22, Yue and Sha disclose the features of these claims as discussed in the previous Office action. Therefore, the combination of Yue, Sha, and Nilsen meet the limitations set forth therein as noted in the previous Office action.

Allowable Subject Matter

4. Claims 4-5, 11-12, and 19-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, as set forth in the previous Office action.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed J Ali whose telephone number is (703) 305-8106. The examiner can normally be reached on Mon-Fri 8-5:30, 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William A Grant can be reached on (703) 308-1108. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



Syed Ali
July 3, 2003



MAJID BANANKHAH
PRIMARY EXAMINER